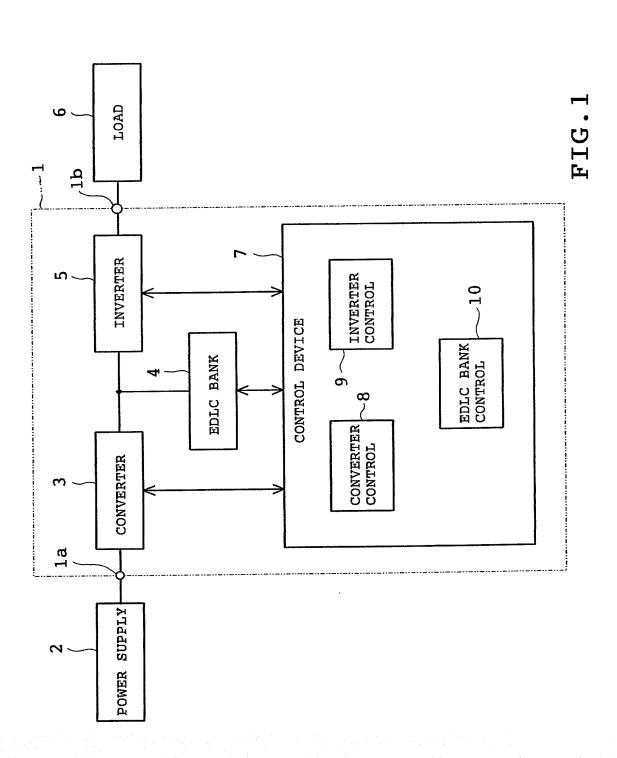
Title: POWER CONTROL DEVICE WITH ELECTRIC DOUBLE LAYER CAPACITOR UNIT CELLS
Inventor(s): Tokihiro UMEMURA et al.

DOCKET NO.: 017499-0171



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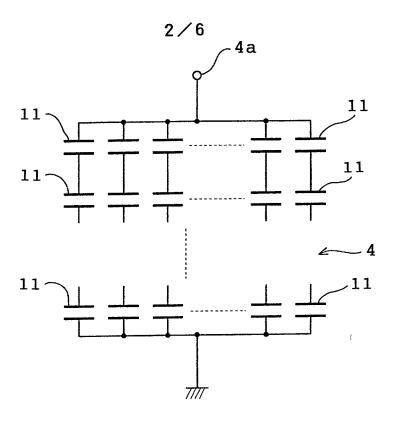


FIG.2

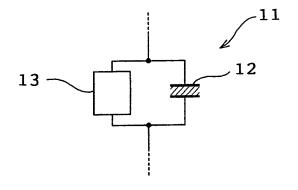


FIG.3

Inventor(s): Tokihiro UMEMURA et al. DOCKET NO.: 017499-0171

PERFORMANCE	EDLC BANK	LEAD-ACID STORAGE BATTERY	ALUMINUM SOLID ELECTROLYTIC CAPACITOR
ENERGY DENSITY	$0.2\sim\!10\mathrm{W}\mathrm{h}/\mathrm{kg}$	$10\sim 40 \mathrm{Wh/kg}$	$< 0.1 \mathrm{Wh/kg}$
OUTPUT DENSITY	$100\mathrm{W/kg}\sim5000\mathrm{W/kg}$	$50\mathrm{W/kg}$ ~ $130\mathrm{W/kg}$	$10 \text{KW/kg} \sim 100 \text{KW/kg}$
CHARGING TIME	$0.1 \sim 100  \text{min.}$	$1\sim 10~\mathrm{Hours}$	< 1 MSEC.
DISCHARGING TIME	$0.1 \sim 100  \text{Min.}$	$0.3\sim3$ Hours	<1 MSEC.
CHARGING EFFICIENCY	>62%	70%~85%	>82%
INTERNAL RESISTANCE	SEVERAL mQ	SEVERAL TENS mΩ	ESR≒10~ 100 mΩ
CYCLE LIFE	>10000	$200 \sim 1000$	>100000

FIG.

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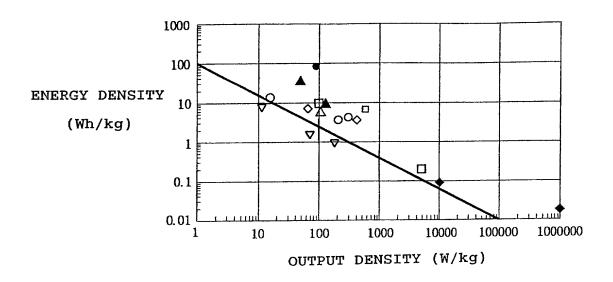
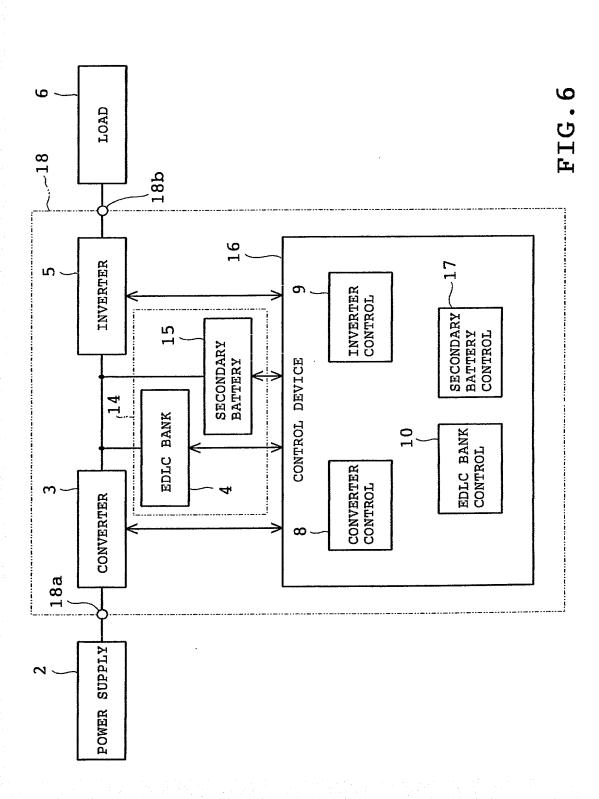


FIG.5

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